THE VETERINARY RECORD

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S., 1888

No. 46. NOVEMBER 17, 1951 VOL. 63.

OBSERVATIONS ON THE DISHORNING OF ADULT CATTLE

BY

L. C. VAUGHAN,

SURGERY DEPARTMENT, ROYAL VETERINARY COLLEGE, STREATLEY,

AND

A. McDIARMID,

AGRICULTURAL RESEARCH COUNCIL, FIELD STATION, COMPTON, BERKS

The presence of horns in domestic cattle constitutes an unnecessary risk in general management. This is especially noticed when, apart from ordinary farm procedure, the animals are subjected to experimental manipulations. Approximately 1,000 head of cattle are kept at the field station, Compton, and about half this number are maintained under conditions of strict isolation in specially designed buildings. The amount of space available for exercising these animals is limited and consequently a variety of injuries due to horns occurred from time to time. For this reason it was decided to eliminate horns from the entire cattle stock, and to implement this policy the calves are now disbudded soon after birth by the application of chemicals. As an immediate step, all adult cattle on the farm were dishorned and this article records some observations made during the progress of this work; various methods were tested and compared and, wherever possible, results were recorded of the effect of the operation on the individual animals.

MATERIALS AND METHODS

The animals available for dishorning were as follow:—

1. Ayrshires at Superity farm—68 lactating and 58 dry.
2. Ayrshires and Friesians at Cheseridge farm—56 lactating and 74 dry.
3. Four hundred and seventy-one Ayrshires and Ayrshire cross heifers in an isolation compound.

Operations were commenced at Superity farm (February 23rd, 1951) and it was decided to form seven groups, 10 cattle in each group, irrespective of lactation period, and to use a different method for each, *viz.*:—

1. General anaesthetic (chloroform) and surgical removal.
2. General anaesthetic (Anavenol " K ") and surgical removal.
3. Local anaesthetic (cholorocain) and surgical removal.
4. Local anaesthetic (chlorocain) and laminated rubber bands.
5. Laminated rubber bands without anaesthetic.
6. Local anaesthetic (chlorocain) and thin rubber bands adjusted on the " figure of 8 " principle.
7. Thin " figure of 8 " rubber bands without anaesthetic.

By using these methods we hoped to find the most humane, effective, quickest and cheapest method of dishorning.

In assessing the comparative value of the seven different methods the following criteria were taken into consideration:—

(a) Pain.
(b) Milk yield.
(c) Appetite.
(d) Any change in general condition.
(e) Time required per animal for each method.
(f) Assistance required.
(g) Final polled effect.

As a result of comparing these different methods in the original 70 animals the remainder of the stock was dishorned by local anaesthetic and sawing.

GENERAL PROCEDURE

Group 1. Chloroform and Surgical Removal

The 10 animals to be chloroformed were tied loosely by halters to the supporting stanchions of a large open cattle court. Chloroform was administered in the standing position by using a Cox's mask, but in some cases difficulty was experienced in obtaining adequate anaesthesia because of the low day temperature (February), which inhibited volatilisation. As soon as the animal was anaesthetised the horns were removed either by saw or by embryotome wire. The saws used varied in pattern; the ordinary butcher's saw appeared to be the most useful. Embryotome wire also was used with good results, advantages being the reduction in haemorrhage and ease of cutting at any angle. When sawing off the horn, about ¼ inch of skin at the skin-horn junction was included in order to prevent recurrent growth (Tazewell & Greenough, 1950). The mask was removed immediately the horns had been sawn off and the animal was propped on to its brisket as soon as possible. When necessary, haemorrhage was controlled by cauterisation with a hot iron.

Group 2. Anavenol " K " and Surgical Removal

With the animal restrained as above, Anavenol " K " was injected into the jugular vein (dosage as recommended by Harrow (1950)) by means of 100 c.c. syringe, a short length of rubber tubing and a large bore needle.

Group 3. Local Anaesthetic and Surgical Removal

The following technique for cornual nerve block was employed. Using a 1 inch by 19 BWG needle, chlorocain was injected about 1½ inches to 2 inches anterior to the base of the horn just below the temporal ridge of the frontal bone. The dose varied from 5 c.c. to 10 c.c. and was infiltrated at varying depths and in different planes at the chosen site. The restraint used for this method varied, some animals being controlled by the method described for Group 1 whereas others were held securely in their yokes in the cowshed.

Groups 4 and 5. Laminated Rubber Bands with and without Local Anaesthetic

All banding was carried out with the animals restrained

in the yokes and these two groups were dealt with in essentially the same way apart from the fact that a local nerve block was performed in Group 4. The bands used measured 3 cm. (exterior diameter) and 2 cm. (interior diameter) and were made of laminated rubber. They were placed on the base of the horns by means of an "Elastrator" (New Zealand pattern) so that the proximal edge of the ring almost touched the horn-skin junction.

Groups 6 and 7. Thin Rubber Bands with and without Local Anaesthetic

Identical technique as for Groups 4 and 5 was used except that thin elastic bands (Arnold) were employed. These were placed "figure of 8" fashion on the base of the horns by means of the "Elastrator." Group 6 received local nerve blocks but otherwise the two groups were dealt with in the same way.

POST-OPERATIVE TREATMENT

The animals in all the groups were turned out to pasture immediately the dishorning operations were completed or after the bands had been applied. This has been found from past experience to be the best procedure to adopt. In Groups 1, 2 and 3, no dressing to check haemorrhage was considered necessary apart from the application of the hot iron to the few cases where large vessels bled more profusely than usual. It is our experience that sinusitis rarely occurs if the wounds are left open but that it frequently follows the application of cotton wool pads, leading to the retention of infected secretion.

RESULTS

Group 1. Chloroform and Surgical Removal

For individual animals this method is quite satisfactory apart from the usually accepted risk of general anaesthesia, but when dealing with a number of animals, we found it slow and not always reliable. In some cases fully 20 minutes passed before an animal could be operated on because of the slow rate of volatilisation of the chloroform. We are, of course, fully aware of the rapidity with which certain operators can remove horns with this method of anaesthesia but we feel certain that pain is not entirely absent during such a procedure. Again, some animals took a considerable time to recover from the effect of the chloroform and constant attention had to be given to each animal in order to avoid untoward sequelae. Including the operator at least four men were required to deal with each animal. The milk yield was practically unaffected, appetite and general condition remained good; the rate of dishorning was approximately four animals per hour. The absence of struggling ensured accurate sawing and the resultant polled effect was consistently good.

Group 2. Anavenol "K" and Surgical Removal

This anaesthetic was unsatisfactory. There was considerable individual variation in response to the intravenous injection of the recommended dose. Some animals reacted in the expected manner but others withstood three times the amount of Anavenol calculated as the correct quantity. The effect of the anaesthetic was transitory; consciousness was quickly regained and in this respect Anavenol appeared superior to chloroform since less post-operative attention was required. The injection of the anaesthetic into the jugular vein depended, to some extent, on the reaction of the individual animal. A large volume of suspension had to be administered and, if the animal struggled before the correct amount had been injected thus dislodging the needle from the vein, the effect of the quantity already inoculated was lost and a fresh start had to be made. To control the animal during injection at least three men were required in addition to the operator. The time factor per animal varied considerably but about 15 to 20 minutes would be a conservative estimate for the whole operation. The general condition, appetite and milk yield appeared to be unimpaired and the final polled effect was satisfactory. However, because of the uncertainty of the anaesthetic both in administration and final effect there could be little doubt that this anaesthetic was not suitable for dishorning Ayrshire cattle on a large scale. It may well be that in quieter animals of other breeds this anaesthetic could be used with good effect.

Group 3. Local Anaesthetic and Surgical Removal

The results obtained from this method were uniformly good. There appeared to be less general disturbance during the pre-operative period and the horns could be removed with the least inconvenience to the operator and to the animals. The total quantity of anaesthetic which had to be used varied considerably from 4 c.c. to 20 c.c. in exceptional cases—but the majority of adult cows received about 5 c.c. per horn and 2 c.c. to 5 c.c. appeared to be quite sufficient for heifers. The technique for nerve blocking was simple and easily carried out and, provided the base of each horn was tested for insensitivity before sawing commenced, pain was completely abolished and the animals quickly recovered from the effects of the operation. Practically no milk loss was recorded. This method required the minimal amount of assistance, one person being required to assist the anaesthetist, a separate team of three for the actual dishorning process. In practice, it was found most satisfactory to complete the anaesthetising of about 12 to 24 animals before sawing commenced. In this way large numbers of animals could be dealt with in a short period, *e.g.*, 95 heifers were dishorned in about two and a half hours and 45 adult cows in about three hours. The final polled effect could be as perfect as with a general anaesthetic but this naturally depended on the care taken in the process of sawing. In general, this technique was obviously the method of choice and it was used to complete the dishorning of the remainder of the Compton stock.

Groups 4 and 5. Laminated Rubber Bands with and without a Local Anaesthetic at the Time of Application.

In adult cows there appeared to be no initial difference between those animals which had received a cornual nerve block (Group 4) and those which had not (Group 5). There was no head shaking or other sign of discomfort for the first few days. In animals with thick horns some of the bands were ruptured within a short time of application but otherwise little was noticed for two or three weeks after the operation. At this time, when the bands had penetrated the horn and were producing considerable pressure on the horn core, a pronounced effect was noticed and animals showed signs of pain in the horn region and the base of the horn was hot and swollen. In some cases a small quantity of pus exuded from the wounds caused by the penetrating bands. These animals lost condition and lacked interest in their food. The effect on the milk yield was not, however, well marked but it became obvious that each animal was undergoing quite a severe systemic disturbance. The cows were obviously dejected, heads were held low or to one side and several animals were shaking their heads. Therefore, it was decided to terminate this method and

remove the horns of the 20 animals in this group by local anaesthetic and sawing. In our opinion, the application of rubber ligatures to the base of the horns is not a satisfactory method of dishorning.

Subsequently, some results became available for a further group of young heifers, 35 in all, between 15 and 18 months of age. The bands were applied in the usual way without an anaesthetic and discomfort became obvious for a few hours after ligation, probably due to the rapid pressure effect by the bands on the soft immature horns. Thereafter, no marked symptoms were noted until the horns commenced to be cast at the end of about three weeks, when pain appeared to be present and the animals were very sensitive about the head region until the wounds healed. Data concerning the time factor in the removal of the horns from these heifers are shown in Table I. There was a definite visible loss of condition in these young animals which was regained two or three weeks after dishorning was completed. It will be seen that the application of rubber bands does not give results which can be relied upon and there are always some animals in which one or both horns remain attached for a considerable period or in which disfiguring horn stumps are left as a result of bands which have slipped from their original positions. (Fig. 1.)

TABLE I

DISHORNING WITH RUBBER RINGS 35 HEIFERS, 15 TO 18 MONTHS OF AGE

Shortest time for first horn to be shed	17 days
Longest time for first horn to be shed	74 days
Shortest time for second horn to be shed	21 days
Longest time for second horn to be shed	85 days

9 per cent. of the first horns were shed before the third week.
43 per cent. of the first horns were shed between the third and fourth week.
25 per cent. of the first horns were shed between the fourth and fifth week.
23 per cent. of the first horns were shed after the fifth week.
23 per cent. of the second horns came off simultaneously with the first horn.
31 per cent. of the second horns came off within one week of the first horn.
26 per cent. of the second horns came off within two weeks of the first horn.
20 per cent. of the second horns came off after three weeks from the shedding of the first horn.
The shortest interval between the shedding of the first and of the second horn of an individual animal was one day and the longest time 41 days.

Briefly, the advantages of applying rubber bands compared with other methods are:—

1. Ease and speed of application.
2. Comparatively bloodless.
3. Can be done at almost any time of the year since the wound is usually self-healing and risk of sinusitis is reduced to a minimum.
4. Comparatively cheap, *e.g.*, milking machine liners (1s. 4d. each) could be used and one liner would provide 12 bands.

Disadvantages to be considered are:—

1. Initial pain on application in young animals; delayed pain in older stock.
2. The uncertainty of horn removal with recourse having to be made to surgical removal in some cases.
3. An unsatisfactory appearance of the head because of the angle of dishorning. (Fig. 2 cf. with Fig. 3, which shows the "naturally polled" appearance after sawing.)

FIG. 1.—Incomplete dishorning as a result of bands slipping from their original position.

FIG. 2.—"Square" effect due to banding.

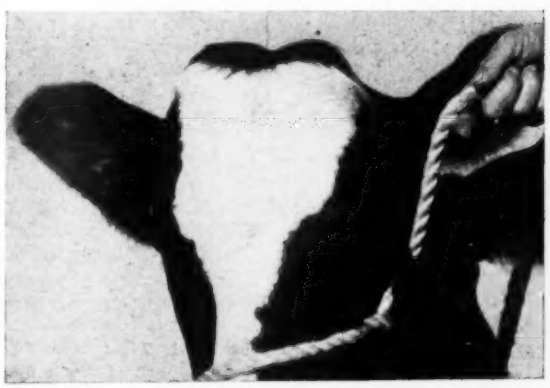

FIG. 3.—"Naturally polled" effect resulting from sawing.

Fig. 4.—Regeneration of horn subsequent to ligation.

4. The regeneration of horn which may become unsightly in two or three years' time (we have observed a considerable amount of deformed new horn growth in a group of 40 Ayrshire bullocks dishorned by this method two years ago). (Fig. 4.)

5. The onset of obvious pain just before and just after the horns were cast.

6. A definite adverse effect on the general condition of the animal.

Groups 6 and 7. Thin "Figure of 8" Bands with and without Local Anaesthetic at the Time of Application.

These two groups of cattle were dealt with in essentially the same way as Groups 4 and 5 except for the fact that thin rubber bands were used, "figure of 8" fashion, instead of the laminated bands. The thin bands were found to be quite unsatisfactory. Many broke and had to be replaced and it was difficult to adjust them in the required position because of the initial lack of grip of this type of band. Subsequently it became necessary to remove the horns of these 20 cattle by sawing because of the detrimental effect of the bands on the general condition of the animals. No young stock were dealt with by this method.

Discussion

It is extremely difficult to assess the real economic importance of horns in cattle, although it is generally agreed that their presence constitutes an unnecessary risk in the efficient management of domestic stock, especially when the animals are confined in yards or similar restricted spaces. In the U.S.A. an attempt has been made to ascertain the financial loss due to this factor, especially with regard to the actual damage to hides, quite apart from the many indirect effects. "Of 204 head, 161 of the carcases had to be trimmed on account of bruising. In addition to an actual loss of 7,140 lb. of bruised meat, cuts were reduced in value" (1949).

Despite the fact that accurate figures are difficult to obtain in this country, there can be little doubt that the removal of horns improves the general temperament of the animal, prevents direct injury and, indirectly, removes many of the causes of falls and subsequent injuries in the cowshed or yard.

We have observed a variety of injuries resulting from horn thrusts and even death due to laceration of the mammary vessels causing severe haemorrhage; injuries of the vagina, rectum and mammary gland are quite common, and severe bruising and laceration in the thorax and abdominal wall occur frequently. Subcutaneous wounds of varying character occur in practically any portion of the body, and injuries to the horns themselves are of fairly common occurrence.

The case for removal of horns appears, therefore, to be clear and it is obvious that more and more dishorning will be carried out in the near future. There can be little doubt that, apart from the obvious remedy of establishing herds of naturally polled cattle, the disbudding of young calves by any of the recognised methods is the most satisfactory and humane way of preventing horn growth, but where adult cattle are concerned considerable controversy has arisen regarding the best method to adopt for dishorning—this is especially so with regard to ligation. In the present series of observations it became clear that considerable pain was evoked through the use of rubber bands with or without a primary anaesthetic and in the case of 40 adult cattle in the Superity herd it became apparent about three weeks from the time of application that, unless the bands were removed, the loss of condition of the animals and their lack of appetite would cause a diminution in their milk supply.

The uncertainty of the effectiveness of the bands was a constant source of annoyance and it could never be guaranteed that all the horns would be removed within a given period. This was adequately confirmed in the group of 35 heifers in which a great deal of variation was recorded in the time taken for the horns to be cast. Another factor which must always be borne in mind is the final polled effect. There can be no doubt that with ligation regeneration of horns shows a greater tendency to occur than after surgical removal and will produce an unsightly appearance quite apart from the initial "square" look of the head. The various advantages of ligation, which have already been discussed in detail, are quite outweighed by the disadvantages associated with this procedure.

Conclusion

As a result of these experiments it may be concluded that the removal of horns of cattle by ligation is too painful, too uncertain and frequently too slow, to be adopted as a method for general use.

Of the various methods examined, that of cornual nerve block followed by surgical removal, either by saw or by embryotome wire, was, in our experience, the most rapid and effective and caused least disturbance to the animal.

Acknowledgments.—We are grateful to Imperial Chemical Industries for the supply of Anavenol "K" and to Mr. F. Summerfield, Senior Technician at the Field Station, Compton, for preparing the photographs.

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RIFT VALLEY FEVER IN SOUTH AFRICA

A vaccine has been developed in the Union to combat Rift Valley fever, which occurred for the first time last year and which affects animals and humans. In announcing this, the Director of Information, South Africa House, W.C.2, quotes the Director of Veterinary Services, Dr. R. A. Alexander, as saying that tests made on animals had been successful. The vaccine is now going into production at Onderstepoort veterinary laboratories, near Pretoria.

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Weekly Wisdom

Until they had solved the problem of too many meetings, too long agenda, too many papers and too much talk, they would not be able to concentrate adequately on those aspects of agricultural research which could be helped by a central organisation.—Lord Rothschild, Chairman of the Agricultural Research Council.

THE PREVENTION OF SKIN DISEASE IN VETERINARY SURGEONS

BY

L. B. BOURNE, M.R.C.V.S., L.R.C.P., D.A. (ENG.), D.I.H. (ENG.),

Senior Clinical Assistant, Dermatological Department, Royal Northern Hospital, London

Most of the modern text-books which deal with industrial medicine do not appear to have particular information relating to the problems of skin disease which may be acquired by veterinary surgeons during the course of their work. The most comprehensive of the recent contributions to the literature is "Occupational Diseases of the Skin," by Schwartz, Tullipan and Peck, and it deals with skin hazards of veterinary surgeons in less than 20 lines, although diseases of butchers and other animal handlers (breeders, etc.) receive some reference in other parts of the volume. Recent work, particularly in Italy and Switzerland, has shown that a considerable measure of protection of the skin is afforded by the use of barrier creams which, for some years past, have assisted industry in preventing industrial skin diseases from many of the potentially dangerous chemical compounds which are now in general use. The use of barrier creams has also been extended to the public at large as the knowledge of their protective value acquired by many factory workers during and since the war has increased their use in ordinary daily activities.

Important problems of human skin infection from animal sources have been investigated by Dr. Alleman, of the University of Berne, Professor Ubertini and Dr. S. Barei, of Brescia, Italy, and their results will be dealt with in some detail in this paper.

Barrier creams when placed on the skin should, to a considerable degree, prevent infection from common pathological organisms (staphylococci and streptococci), etc., and what is of major importance, they should prevent the absorption of substances likely to give rise to sensitisation or toxaemia. Generally speaking, barrier creams contain adequate fungicidal and bactericidal agents to reduce the possibility of infection from bacteria and fungi. Alleman has considered the problems from the point of view of (1) possible infection through the skin from the Bang bacillus (which is likely to infect veterinary surgeons and farmers) in examination of the genital tract of cattle; (2) protection of the skin from *bact. rhusiopathiae suis;* (3) protection of the skin from dinitrocresol solution.

Ubertini and his school have also been recently engaged on the same problem and Barei has published interesting results which have been confirmed by the more extensive experiments of Alleman.

Alleman commenced his work with experiments to determine if the Bang bacillus could penetrate the unbroken skin. Five guinea-pigs were epilated in an area of the abdomen and after 10 days a piece of gauze which had been soaked in a fresh culture of the Bang bacillus was kept in contact with the epilated skin for two hours. Two control animals were given intraperitoneal injections of the same culture. At eight-day intervals thereafter samples of cardiac blood were taken from the animals to test for the Bang bacillus by the Widal reaction. After four weeks the animals were killed and dissected. Splenic cultures also were made. At autopsy it was shown that one epilated animal which gave a positive reaction in 24 and 32 days, also showed typical changes in the spleen. The other animals gave negative findings. Alleman concluded that the positive result in the one case could have been due to a minute injury to the skin but he felt he had confirmed the experiments of Barei and Ubertini that the unbroken skin is not penetrated by the organism.

In the second series of experiments he endeavoured to establish that the Bang bacillus can penetrate the injured skin and if it does so, if this could be prevented by the use of barrier creams. He used six animals for each type of cream and a series of six control animals. As before, control animals each received intraperitoneal injections. The test animals were epilated as previously on the abdomen and slight abrasions of the skin were made with an inoculation knife. Barrier cream was rubbed into the skin of the traumatised area with the finger until it had disappeared. In the control group of animals no cream was used. Gauze soaked in culture was applied to the skin of the animals for one hour and agglutination tests were carried out constantly as previously reported. The intraperitoneally treated animals, and the controls without barrier cream, all gave positive agglutination tests, positive autopsy findings and cultures.

Of the barrier creams tried, it was shown by the findings that water-proof barrier cream of English origin (BQ7) is a good protection against infection with the Bang bacillus. The other creams gave only partial protection and one gave inadequate protection. In his opinion BQ7 would be safe to use by those who deal with animals infected with this organism and he recommends its use as a prophylactic measure, particularly for butchers.

He also carried out a similar set of experiments using a recently isolated strain of *b. rhusiopathiae suis* which had been recovered from a human being infected with the organism. White mice were the experimental animals. Cultures were made in bouillon. In the same way the mice were shaved on the abdomen and the skin scratched with an inoculation knife. Some of the bacterial suspension on lint was held in contact with the skin for half an hour. The area was then washed free from contamination, with water. These animals were treated as controls. Another group of controlled animals was also used, after having received intraperitoneal injections of the culture In the test group the skin was treated in the same manner but protective creams were applied to the skin before the application of the broth culture to the area.

There were 10 animals in each group and all the controls which either had been given intraperitoneal injections or infected through the unprotected skin died within five days. Only one out of the group protected by barrier cream (BQ7) died whereas 5 out of 12 using BQ4, and 4 out of 10 using BQ1A barrier cream died within five days. He repeated the experiments and found that 9 out of 10 control animals infected through the unprotected skin died within five days.

Three out of 10 of those protected with cream BQ1A also died and none of the 10 animals protected with cream BQ7 died. His conclusion was that a barrier cream such as he used is a protection for the injured skin against infection by organism *b. rhusiopathiae suis*.

In order to discover the efficiency of barrier creams against a known toxic chemical he experimented with a yellow staining plant protection solution containing dinitrocresol as follows:—

> A quantity of a water soluble barrier cream (BQ5) was rubbed into the hands and around the nails and on top of this a further application of BQ1—a water insoluble cream—was made. The reason for this was that the toxic material chosen for test is soluble in lipoids and also forms an emulsion in water. The hands were then dipped several times in the dinitrocresol solution. The hands were allowed to dry and

then the routine work of the laboratory was carried out and it was found that the skin remained protected for from three and a half to four hours. This test was repeated many times with equally satisfactory results. Similar results were obtained when the skin of the rabbit was used and different barrier creams were used. He found that the best results were obtained when the dual application of the two creams BQ5 and BQ1 was made.

As a result of these interesting findings it may be of value to list the qualities desirable in a barrier cream, although it must be borne in mind that the skin of the individual may vary in some detail both as to structure and perhaps physiological features. It can be stated, however, that the minimum requirements are:—

(1) It must protect against the specific irritant applied to the skin.

(2) It must be easily applied to the skin and be capable of drying rapidly.

(3) It must contain no substance harmful to the skin nor must it contain any substance capable of forming a third dangerous combination with the agent against which protection is desired.

(4) It should have a *p*H of 6, 5, −7.

(5) It should not restrict the movements of the fingers or interfere with manual dexterity or sensitivity.

(6) It should not be transferable to the object handled.

(7) It must be permanent enough and give adequate film of protection for a definite period.

(8) It must be easily removable from the hands by ordinary washing methods.

In general, there are two types of cream—hydrophil and hydrophobe; others are sub-divided into creams of specific purpose against acids, alkalis, organic solvents, oils, etc. It has not been possible, to date, to create a single cream with adequate protective capacity against all irritants. It seems possible that an adequate buffer against both acids and alkalis can be supplied, but to do so against all possible toxic hazards seems to be beyond present knowledge. Nevertheless, most risks to the skin can be avoided by one or other of the creams.

There is a considerable risk of sensitisation of the skin in veterinary surgeons who come into contact with animal secretions, particularly in the examination of pathological conditions. Animal secretions, as is well known, give rise to erythemata of varying intensity locally, which may be followed by sensitisation of the body generally. There would appear to be no reason why barrier creams should not protect against the entry of these sensitisers into the skin as effectively as the industrial worker can be protected against harmful and toxic chemicals and I have been personally responsible for the prevention of skin disease from many toxic and corrosive reagents, such as hydrofluoric acid and strong caustic soda solutions. It would be of interest to have field tests carried out to prove how effective modern barrier creams can be in assisting to protect veterinary practitioners from this hazard.

From the evidence of work quoted above there would appear to be considerable application in the field of veterinary science. The veterinary surgeon should be protected and as there is now an adequate means of protection available, there is no reason why it should not be adopted generally.

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CLINICAL COMMUNICATIONS

THE SUCCESSFUL TREATMENT OF A SEVERE CASE OF MULTIPLE PAPILLOMATA IN THE BOVINE

BY

G. R. SUMNER, M.R.C.V.S.,

Liverpool

Subject.—Yearling attested Friesian heifer.

Condition.—The heifer had large multiple warts on the head, face and neck, less on the body but with a large one at the side of the vulva. To the touch the warts felt cold and horny and had a pedicle. Prior to my visit the farmer had tried several proprietary "wart removers" with no success; indeed, according to him, they had appeared to act as "fertilisers." I remembered that "Anthiomaline" (lithium antimony thiomalate) had been widely used in the tropics in treating nasal polypi (nasal granuloma) and that it had also been reported upon as of value in the treatment of warts in cattle and dogs (Menon, 1951, *Vet. Rec.* **63.** 50). I therefore decided to try this antimonial in the case in question.

The gluteal region was chosen and 15 c.c. "Anthiomaline" were injected intramuscularly and repeated at

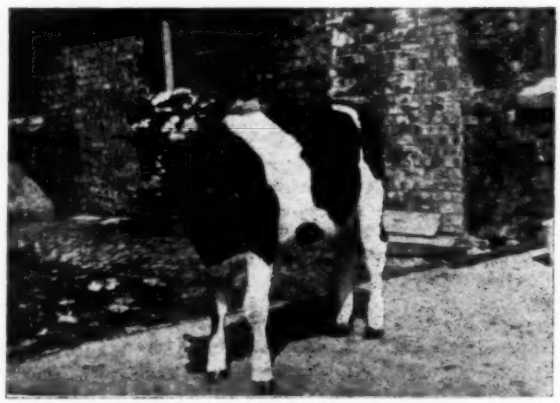

Fig. 1.

Fig. 2.

48-hour intervals on five occasions. A slight reaction of an inflammatory nature was observed at the site of injection.

On the occasion of the third injection the heifer seemed to find the warts irritating and on palpation they felt warm. After the fifth injection the large wart near the vulva was squeezed gently and it was easily shelled out, leaving a clean bleeding surface. Seven days after the last injection it was possible to squeeze these warts out daily and on each occasion they were more readily expelled. They came out with deep tenticular roots and the number removed each day was governed by resultant haemorrhage. The wounds were dusted daily with sulphanilamide powder and left open. Five weeks after commencing treatment all the warts had been removed manually with the exception of several around the nose which were of a different type from those on the head and the rest of the body and were shallow with a broad base.

Photograph (Fig. 1) enclosed was taken before treatment and photograph (Fig. 2) was taken at the conclusion of treatment.

Whilst receiving " Anthiomaline " the heifer had been with a group of 13 others and had been completely housed for four months and was fed on hay, silage, roots, oat straw and a few dairy nuts.

Histology.—Histological section of one of the early warts removed showed it to be a papilloma.

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VAGINITIS IN SPAYED BITCHES

WILLIAM HENDERSON, M.R.C.V.S.,
HAMPTON

During recent years I have met with several cases of vaginitis in spayed as well as entire bitches. Such a condition following the hysterectomy operation can be a source of embarrassment. The important thing, however, is to get down to an intelligent consideration of the clinical signs. In my experience the fact that a spayed bitch is attracting dogs seldom has anything to do with the previous spaying operation. If there is no vulval discharge, and one is told that she is attracting males but resents their attentions, then a likely cause is hypersecretion and excessive drainage from the anal glands, a condition which clears up as soon as the glands are removed.

Again, there may be a discharge of bloody urine or serum tinged with blood may appear at the vulva, symptoms which excite the male and are always construed by the owner to mean oestrus. Irritation of the vaginal mucous membrane will cause frequent attempts at micturition. The possible presence of calculi in the bladder or urethra is easily eliminated by clinical examination under pentothal or intraval anaesthesia and confirmed by radiographs negative for calculi. For my examination of the vaginal mucous membranes, I lay the bitch on her back and use an auroscope. Sometimes one finds only a local vulvitis with no involvement of the vaginal mucous membrane, but more often the vaginal mucous membrane is inflamed and covered with vesicles. Two cases are sufficient to illustrate the condition.

A bull terrier bitch, aged five years, had the following history: In her first pregnancy at about three years of age, this bitch developed uterine inertia, and caesarean section was performed by another member. In her next season a mismating followed, and as far as I could ascertain later 20 mg. stilboestrol dipropionate were injected a few hours after the mating. Thereupon, the bitch remained in season, according to the owner, for a period of three months. Frequent seasons followed, or at any rate the bitch was constantly attractive, and in view of the annoyance caused in the neighbourhood the owner was inclined to favour euthanasia.

I suggested hysterectomy, which was performed. The ovaries were hypertrophied and contained multiple cysts and the uterus was enlarged. There was no vaginitis at this time. After an uneventful recovery, the bitch was all right for a spell, but was returned with what seemed to be a recurrence of the trouble, namely, that she was attracting males which she fought off with bull terrier vigour. There was frequent voiding of bloody urine and intense irritation around the vulva, the vaginal mucous membrane being very red and showing many vesicles. A diagnosis of vesicular vaginitis was made, and the client was told that the outlook was good. Treatment consisted of 200,000 units procaine penicillin (" Distaquaine ") daily for six days, and douching of the vagina was carried out twice daily with tincture of Metaphen (Abbott). After seven days the vesicles had disappeared, the vaginal mucous membrane was normal, and males ceased to be interested. The bitch was sent home, and several months later the owner reported that there had been no further trouble.

In the second case, that of an Alsatian bitch, 14 months old, this animal had been spayed by me at seven months of age. The owner believed the bitch to be in season again, there was haematuria, and inflammation of the vagina, and dogs were attracted. This bitch had 10 days' treatment in hospital on the same lines as above, and the condition cleared up. A month after returning home, the owner telephoned to say that the bitch was perfectly fit.

No special claim is made for tincture of Metaphen as a vaginal douche, but it proved efficient in these cases, combined with penicillin therapy. In order to get a quick response, local treatment of some kind should be given. I remember seeing the condition some years ago in unspayed bitches, and if there was no involvement of the upper genital tract they cleared up with a course of sulphonamides and douches of potassium permanganate. These vaginal vesicles may be of a contagious nature, for I can recall seeing similar vesicles on the penis of the dog.

LEVERHULME RESEARCH FELLOWSHIPS, 1952

Application is invited for Fellowships and Grants in aid of research. The Fellowships and Grants are intended for senior workers who are prevented by routine duties or pressure of other work from carrying out research. They are limited to British-born subjects normally resident in the United Kingdom. In exceptional circumstances the Trustees may waive the condition as to residence.

The Trustees are also prepared to consider applications from groups of workers engaged upon co-operative programmes of research, particularly from those engaged upon long-distance programmes.

The duration of the awards will not normally extend over more than two years or less than three months and the amount will depend on the nature of the research and the circumstances of the applicant.

Forms of application may be obtained from the Secretary, Leverhulme Research Fellowships, 3/5, Salisbury Square, London, E.C.4. Telephone: City 1910.

Applications must be received on or before December 31st, 1951. Awards will be announced in May and will date from September 1st, 1952.

ABSTRACTS

Large-animal Anaesthesia*

What is claimed to be a very satisfactory general intravenous anaesthetic mixture for large animals has been developed by the large-animal clinic of the State College of Washington. Chloral hydrate 60 grammes and magnesium sulphate 30 g. are dissolved in 350 c.c. distilled water and after autoclaving there are added ethyl alcohol 100 c.c. and nembutal sodium 50 c.c. The resulting half litre of solution is quite stable and is unaltered by deep freezing.

The surgical anaesthetic dose of the solution is 1 c.c. per 3 lb. bodyweight for horses and 1 c.c. per 2 lb. for cattle. Thirty-four horses and three cattle have been anaesthetised with very satisfactory results. Rapid recovery is a feature. A few case records are given. *Note :* Little is said about the reaction of the animals during induction. Some were cast or otherwise restrained in advance.

J. E.

* **Large-animal Anaesthesia.** Groves, L. W. (1951.) *J. Amer. vet. med. Ass.* **119.** 50-54.

* * * * *

Dried-grass Meal as a Riboflavin Supplement to Animal Feeding-stuffs*

Except for the domestic fowl, the demands of animals for riboflavin can be met by normal farm rations. Natural roughages contain sufficient quantities of riboflavin for ruminants and, in addition, bacterial synthesis of the vitamin takes place in the rumen. The demands of the pig can be met by comparatively small quantities. In poultry, curled-toe paralysis is caused by a deficiency of riboflavin, and riboflavin-rich feeding-stuffs are necessary for the optimum hatchability of eggs under practical conditions of management. In Northern Ireland suitable riboflavin supplements are in very short supply at the present time, and, as in America considerable use has been made of lucerne meals, commercial dried-grass meal was tested.

Samples of dried-grass meal produced from commercial grass-drying plants were examined for their crude protein and riboflavin content, and the findings indicated that the increase in quality of dried-grass meals as judged by the crude protein content is accompanied by a corresponding increase in riboflavin. A statistical interpretation of the data revealed a highly significant correlation between crude protein and riboflavin. The sharp fall in the riboflavin content of grasses shown by other investigators to occur before flowering, was confirmed by the present results which showed that poor-quality dried-grass meals, comparable in crude protein content to hay, contained very small quantities of riboflavin.

To test the biological value of good-quality dried-grass meal, a sample was incorporated at varying levels in a riboflavin-deficient chick ration. The growth rates recorded in the 5 per cent. and 10 per cent. addition groups are comparable with those previously recorded by other workers for chicks receiving dried-liver meal and dried skim-milk in their diet. The 5 per cent. addition was not sufficient for the complete prevention of curled-toe paralysis. The live weight increase shown by the group receiving 15 per cent. dried grass was lower, and it would seem that the inclusion of dried grass above the 10 per cent. level results in a lowered feed efficiency by decreasing the level of food intake of the chick. This lower intake of food might have been due to the unpalatable nature of the mash containing a high level of dried grass. The values for the riboflavin contents of the livers showed that the liver content of chicks gave a good measure of optimum levels in the feed. The quantities of riboflavin were not sufficient for liver saturation until a level of 10 per cent. was reached.

It seems likely that dried grass of good quality containing over 15 per cent. crude protein may be a useful source of riboflavin-rich material.

J. O. L. K.

* **Dried-grass Meal as a Riboflavin Supplement to Animal Feeding-stuffs with special reference to Poultry.** Brown, W. O. (1950.) *J. Serv. Food and Agric.* **1.** 219-222.

REVIEW

[Plant and Animal Nutrition in Relationship to Soil and Climatic Factors. Proceedings of the British Commonwealth Scientific Official Conference—Specialist Conference in Agriculture, Australia, 1949; pp. X + 490; price £1. London: H.M.S.O. (published, 1951).]

This comprehensive account of the 1949 Specialist Conference attended by delegates and observers from the U.K., Canada, the Colonies, India, New Zealand, South Africa, Australia, Ceylon, Pakistan and the U.S.A., should be studied by all who are concerned with animal nutrition and its interrelationship with animal health. Some criticism was made in our columns at the time that none of the nine delegates who travelled from the U.K. was a veterinarian. British veterinary interests were, however, well represented by Drs. H. H. Green, J. W. Howie and James Stewart, who collectively have contributed so much towards a better understanding of the nutritional problems of livestock.

The proceedings are divided according to the five sessions that were held, *viz.*, A. " Review of present knowledge of the climate and soil factors affecting nutrition of plants and animals "; B. " Effects of specific soil and climate factors on the nutrition of plants "; C. " Nutritional problems of the animal as determined by plant and soil "; D. " Influence of plant and animal on soil fertility "; and Supplementary Session : " Pasture Management ". A tremendous range of topics was covered, and at its close the Conference recommended that future conferences should deal with specific aspects of plant and animal nutrition and comprise specialist workers in limited numbers and active in particular fields.

It is not practicable in a review to deal in detail with the whole work, and it is felt that busy practitioners and others would benefit more from a selection of items of veterinary interest, whether original contributions to the proceedings or discussed at the Conference in the summarising of current knowledge.

Direct Relationships between Climate and Animal Welfare.—For practical purposes the animal climatologist takes the heat balance of the animal as the main index of climatic significance, and treats of other climatic stresses as secondary and complicating situations. Analysis of the physical conditions governing heat exchange between the animal and the environment, and that of the animals' physiological responses to thermal stress, reveals that animals are much more varied in their responses than are plants, and that the significant climate criteria are in many ways different from those affecting plants. Current methods of classifying climates are, however, frankly botanical, and cannot

be expected to be applicable to animal needs. Much more information regarding relevant meteorological data is required.

The utilisation of Phosphorus (P) and Calcium (Ca) by ruminants.—There would appear to be a striking difference between the effect of phosphorus-deficient pastures upon sheep and that on cattle. In Australian observations, grazing of sheep on P deficient pastures did not lead to deficiency symptoms, despite a relatively low concentration of blood phosphate. When sheep were penned and fed on a P deficient ration, typical symptoms and the lesions of osteoporosis and osteomalacia could be set up. This variation is attributed to difference between the grazing behaviour of sheep and cattle. Even on P deficient soils the available pasture during its active period of growth contains ample P in the meristematic tissues to which much of the P in the plant is translocated. Sheep select this richer material, and the P laid down in their cancellous bones during such periods provides a buffer against exigencies when the intake is, of necessity, low. Cattle, however, are less selective in their feeding habits and so the fodder they ingest is of much poorer quality.

Defective mineralisation in the skeleton, when this does occur in grazing sheep, usually originates from an impaired utilisation of P as a final consequence either of vitamin D deficiency or of a deficiency of Ca. There is no evidence that, under Australian conditions at least, the excessive consumption of Ca and magnesium (Mg) has any harmful effect upon sheep. Penned animals initially seven months of age were maintained without any ill-effect for two years when 30 g. Ca per day and 10 g. Mg per day as the carbonates were added to a ration consisting largely of sun-cured hay and providing approximately 1 g. P per day.

Molybdenum (Mo) and Copper (Cu).—Extreme Cu deficiency in deficient pastures may be accelerated if sheep are dosed with the equivalent of 100 mg. Mo per day. The Cu content of such animals is markedly reduced not only at this level of Mo intake but at much lower levels. The concentration of Cu in the tissues is not, however, a reliable criterion of the Cu status of the animal, for in these circumstances of Mo intake it is not a measure of physiologically effective Cu. There is no evidence from balance experiments to suggest that Mo tends to retain Cu in the intestinal tract either by complicating its absorption or by enhancing its re-excretion into the intestine. Partial failure of the assimilation of Cu cannot, however, be wholly responsible for the untoward effects of chronic Mo ingestion. There is apparently no stoicheiometrical relationship between the amounts of Cu and Mo which are concerned in these physiological interactions. A relatively small amount of Mo will, in some circumstances at least, bring about a maximum antagonistic effect, and a proportionately small amount of Cu will overcome the effects of a relatively massive amount of molybdate. ***The Cu/Mo ratio in the fodder thus seems not to be essentially significant.***

" Cappi " or " Double Scalp " in Sheep.—This disease is common on the hills of Yorkshire, Northumberland and many parts of Scotland. It is recognised by farmers owing to the raising of the frontal bone, and they often attempt a " cure " by pressing the bone back into its original position, usually breaking it in the attempt. The condition is actually a generalised osteoporosis which is evident even in the long bones. Bone, blood and pasture analysis have suggested that there is a deficiency of P rather than of Ca. Experiments on a low P diet have produced a loss in skeletal reserves comparable with those in " Cappi " but have not led to osteoporotic changes in the particular bones. " Cappi " can, however, be prevented or cured by feeding mineral mixtures. Many sub-clinical forms of this and related diseases exist and are often overlooked.

Hypomagnesaemia in Cattle in Britain.—On farms where the disease is prevalent the blood Mg content of the majority of the herd fluctuates throughout the year. When the blood magnesium is in a low phase any additional excitement produces tetany and other clinical manifestations of the disease, often terminating in sudden death. The low phase often occurs when the herd is put to grass in April or May after a winter of indoor feeding or in outwintered cattle when the early summer flush of grass appears. The fall in blood Mg cannot be connected with any variation in the Mg content of the diet. No success has been reported from attempts to prevent the disease by liming the land with magnesium limestones. It has, however, been possible to prevent outbreaks of lactation tetany by feeding a high Mg mineral mixture in amounts that will allow the animals to ingest about 12 g. Mg per day.

Copper-molybdenum relationships in Great Britain.—The postulation that " teart " disease is a conditional copper deficiency is considered to have been ill founded. In Somerset, hypocupraemia in cattle exists without as well as within the teart areas and is believed to be associated (as also is swayback in sheep) with some unknown " conditioning factor " in herbage, irrespective of the Mo level of the pasture.

Deficiencies dependent on climatic conditions (exclusive of minerals and gross lack of food).—The position generally would seem to be summarised as follows: (1) Actively growing pasture is seldom deficient in available energy, protein or carotene. Dormant pasture is usually deficient in protein and carotene. Mature pasture forage is probably to be considered as deficient in available energy. (2) Hay may often be deficient in energy, protein and carotene, although curing practices are as responsible for low potencies as are climate and soil. (3) Climatic factors result in the production of grains of " sub-normal " protein and available energy contents. Protein deficiency becomes of importance in pig feeding and sub-normal available energy is of practical significance in all livestock feeding. Although subject to variations by climate and soil, the cereal grains should nevertheless not be depended upon to meet the needs of animals for carotene, riboflavin or pantothenic acid.

Climate influences on the nutrition of suckling pigs.—Observations in Scotland showed that young pigs farrowed and reared indoors in cold, damp and draughty quarters grew slowly and uneconomically, and that about one-third of them died before weaning. The clinical and pathological features were essentially those of cardiac failure. The superior health and growth of pigs farrowed and reared outdoors seems to depend less on their access to iron or unknown nutrients in soil and grass than on the greater comfort afforded by the wooden ark huts in which they are housed.

The conditions under which dairy farmers, milk distributors and milk retailers may obtain licences to deal in milk of one of the special designations—" certified," " tuberculin-tested," " pasteurised " etc.—and the standards they must keep in order to retain them are outlined in a memorandum explaining the Milk (Special Designations) (Scotland) Order, 1951, which has just been published by the Department of Health for Scotland.

MEMOIR

Richard William Morison Mettam, O.B.E., M.Sc., M.R.C.V.S.

Richard William Morison Mettam, O.B.E., M.SC., M.R.C.V.S., whose death was announced in our issue of July 21st, was born on May 19th, 1895. He was the son of the late Professor A. E. Mettam, B.SC., M.R.C.V.S., M.R.I.A., Principal of the Royal Veterinary College, Dublin, from 1900-1917 and President of the Royal College of Veterinary Surgeons, 1911-1913. Educated at the High School, Dublin, and the Grammar School, Windermere, he entered the Royal Veterinary College of Ireland in 1913 at the age of 18, and graduated in July, 1917, having gained second-class honours in his first, second and final and first-class honours in his third professional examinations. He was awarded the First Fitzwygram Prize, the Williams Memorial and the Gold Medal presented by the Veterinary Medical Association of Ireland to the student of the year.

On leaving college, Dick Mettam joined the Army and served in France, Belgium and Germany. In April, 1918, he was promoted Captain in the Royal Army Veterinary Corps and was attached to the Headquarter's Staff of the Fourth Army until November when he returned to No. 5 Veterinary Hospital where he was employed mainly on research work. From April to August, 1919, when he was demobilised, he was officer-in-charge of the Rhine Army Veterinary Bacteriological Laboratory at Coln. During the time that he was in the Army, he worked on ulcerative cellulitis, epizoötic lymphangitis, specific ophthalmia and equine mange; but except for a report on Contagious Ophthalmia of Horses in the Report of the Director General, R.A.V.C., for 1919, his observations were not published.

Mettam first arrived in Africa, the continent to the veterinary problems of which he devoted the rest of his life, in January, 1920. After a few months as Research Officer at Onderstepoort, he was appointed to the chair of Veterinary Anatomy of the University of Witwatersrand in the newly created Veterinary School. He remained at Onderstepoort until March, 1927, when he joined the Colonial Veterinary Service as Veterinary Research Officer at Kabete, Kenya Colony.

During his early period under Sir A. Theiler at Onderstepoort Mettam worked on blackquarter vaccine production and the investigation of snotziekte, a condition now regarded as a highly fatal form of bovine malignant catarrh. His tenure of the Chair of Anatomy is marked by a number of papers, the most important of which is probably his study of the atrio-ventricular system of the equine heart.

At Kabete, where he stayed until the beginning of 1930, Mettam was responsible for the production of anthrax spore, blackquarter and contagious abortion vaccines. In addition, he studied respiratory diseases of sheep and goats, a haemorrhagic condition of unknown etiology, which led eventually to the closing of the Nairobi quarantine station for imported cattle in 1933, and plant poisoning. An enthusiastic botanist, his great interest in plant poisoning, native poisonous and medicinal plants infected at least one of his colleagues.

Early in 1930, Mettam was appointed Veterinary Pathologist in Uganda. As the Entebbe laboratory was occupied by the Medical Department, he was granted nine months' study leave which he spent working with the late Professor G. H. F. Nuttall at the Molteno Institute. He worked at Entebbe until September, 1937, when he was transferred on promotion to Nigeria. Whilst in Uganda he first became actively involved in the production of rinderpest prophylactics. His previous teaching experience must have proved very useful to him in the early days of the Entebbe Veterinary School where he became responsible for the courses in pathology, parasitology and tropical veterinary medicine. In addition, he found time for research into East coast fever and turning sickness, the transmission and treatment of trypanosomiasis, rinderpest in game animals and the investigation of the toxicity of local plants.

At Vom in Nigeria, as at the other laboratories in tropical Africa, the war caused shortages of staff and difficulty in obtaining supplies of equipment. Heavy demand for vaccines and sera and pressure of routine work interfered seriously with research activities. Lack of time made the preparation for publication of the results of such investigational work as was possible almost out of the question. We have little, for example, of the early work with K. A. G. at Vom and the development of the Nigerian sub-strain. As Director of the laboratory Mettam was present again at the birth of a school, the Vom Veterinary School, which was made possible, as at Entebbe, only by the participation of the available laboratory staff in the teaching. Mettam himself was responsible for the courses in pathology and tropical medicine and for a time for that in anatomy.

In addition to research into rinderpest vaccines Mettam worked at Vom on contagious bovine pleuro-pneumonia, brucellosis, the chemotherapy of trypanosomiasis and, of course, plant poisoning. Unfortunately the only accounts of much of this work are to be found in the Annual Reports of Nigerian Veterinary Department, which, owing to restrictions on printing during the war, had only a limited circulation. He was awarded an O.B.E. in the Birthday Honours of 1950.

Mettam had only just arrived in Nigeria from leave when he became seriously ill. He was brought home to Liverpool where he spent several weeks in hospital. He died in Lanark, Scotland, on July 11th, 1951.

During his youth Mettam was a keen footballer and cricketer. He maintained his interest in cricket, playing at Vom until a year or two ago. He also enjoyed a good hard game of tennis.

A sound and painstaking worker, he had a quiet and courteous manner and his fine sense of humour was demonstrated in some of the tales that he told against himself. The hospitality of the Mettam ménage will always be remembered by their friends. Those of us who were privileged to know Dick Mettam will miss him greatly

Sincere sympathy is offered to his widow, to Margaret and to Donald.

J. R. H.

NOTES AND NEWS

Diary of Events

Nov. 23rd.—Annual General Meeting of Members of the Veterinary Division of the British Homoeopathic Association, at 43, Russell Square, London, W.C.1.

Nov. 27th.—Unveiling of War Memorial to former Students of the Royal (Dick) Veterinary College, in the War Memorial Library, 3 p.m.

Nov. 28th.—Whole-day meeting of the Technical Development Committee, N.V.M.A., 10.30 a.m.

Nov. 30th.—North Wales Division, N.V.M.A., Dinner-Dance at Llandudno (St. George's Hotel), 7.30 p.m.

Nov. 30th.—Meeting of the Royal Counties Division, N.V.M.A., at Abingdon (Guildhall), 2.30 p.m.

Dec. 6th.—Meeting of the Central Veterinary Society at the Royal Veterinary College, N.W.1, 6 p.m.

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R.C.V.S. EXAMINATIONS

Thursday, November 29th.—M.R.C.V.S. Written Examinations.
Friday, November 30th.—Ditto

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Handbook on the Handling of Animals and First Aid

Copies of the above Handbook are now available, a further printing of this publication having been made in conjunction with Messrs. Baillière, Tindall & Cox. Members of the Association who have not yet received a copy on application may obtain one from the General Secretary, 36, Gordon Square, London, W.C.1. Non-members should send their orders direct to Messrs. Baillière, Tindall & Cox, 7 & 8, Henrietta Street, London, W.C.2, remitting 6s. per copy, plus 6d. postage.

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PERSONAL

Honorary Degree for Professor W. L. Weipers

At a meeting of the Senate of Glasgow University held on October 18th, 1951, the Honorary Degree of B.Sc. was conferred on Professor William L. Weipers, M.R.C.V.S., D.V.S.M., Professor of Veterinary Surgery and Director of Veterinary Education in the Veterinary School of Glasgow University.

Appointments in the University of Glasgow Veterinary School

Mr. W. I. M. McIntyre, M.R.C.V.S.

Mr. W. I. M. McIntyre, M.R.C.V.S., at present a member of the Clinical Staff of the University of Edinburgh Royal Dick School of Veterinary Studies, has been appointed to a Senior Lectureship in the Department of Clinical Medicine and Surgery, University of Glasgow Veterinary School.

Mr. McIntyre, who is 32, was educated at Golspie Secondary School, Sutherland, and the Royal (Dick) Veterinary College, where he qualified M.R.C.V.S. in 1944. After four years as a Clinical Assistant in the Royal (Dick) Veterinary College, he was appointed Senior Lecturer in charge of the small-animal out-patient department, which post he now leaves to go to Glasgow on December 1st.

Mr. J. S. S. Inglis, B.Sc., M.R.C.V.S.

Mr. J. S. S. Inglis, B.Sc., M.R.C.V.S., at present a member of the staff of the Department of Animal Husbandry and Preventive Medicine at the University of Edinburgh Royal Dick School of Veterinary Studies, has been appointed Senior Lecturer in Animal Husbandry and Preventive Medicine in the University of Glasgow Veterinary School.

Mr. Inglis is a graduate of the Royal (Dick) Veterinary College and a B.Sc. (Agriculture) of Edinburgh University. After working for a year as a research student at the London School of Hygiene and Tropical Medicine he joined the veterinary research staff of the Ministry of Agriculture, Northern Ireland. After two years in Northern Ireland he was a Veterinary Inspector in the North Riding of Yorkshire for just over six years, working at first under the County Council and later under the Ministry of Agriculture and Fisheries. In 1943 he became Veterinary Investigation Officer for the South-Eastern Agricultural Province of England. Mr. Inglis was appointed Senior Lecturer in the Department of Animal Husbandry and Preventive Medicine at the Royal (Dick) Veterinary College in April, 1944. He takes up his new appointment in Glasgow on December 1st, 1951.

Mr. J. S. Steward, F.R.C.V.S., D.V.S.M.

Mr. J. S. Steward, F.R.C.V.S., D.V.S.M., formerly of Hereford, has recently left the staff of I.C.I. to take up general practice in Nottingham, where he has acquired the practice of Messrs. Evershed and Smythe.

Mr. Steward joined I.C.I. in 1943 as Parasitologist in a team of veterinary workers which included, as Pathologist, Dr. J. R. M. Innes (now in the U.S.A.); as Physiologist, Mr. H. B. Parry (now at the Animal Health Trust), and as Bacteriologist, Mr. J. Francis, who, as announced in our last issue, is shortly leaving for Australia.

Mr. Steward's publications since joining I.C.I. include papers on the veterinary and medical uses of Gammexane, the treatment of coccidiosis with sulphone, and sulphamezathine, etc. His work has included the experimental chemotherapy of numerous animal diseases and the development of new experimental techniques for the assay of drugs against the internal parasites of animals and man.

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Births.—Herrod-Taylor.—On November 1st, 1951, at Leamington Spa, to Denise and "Titch," a brother for Heather.

Pinniger.—On November 3rd, 1951, at The Gables Nursing Home, Pine Tree Glen, Bournemouth, to Odette (*née* Hawkins), wife of Roger S. Pinniger, M.R.C.V.S., a son.

Scurfield.—On November 5th, 1951, to Jennifer (*née* Rackham), M.R.C.V.S., and Robert Scurfield, a son. Heather View, Etching Hill, Rugeley, Staffs.

Taylor.—On October 20th, 1951, at Eastnor Castle, to Jean, wife of Herbert S. Taylor, B.V.Sc., M.R.C.V.S., N.D.A., a son.

. . . . .

Marriage.—Smith—Schofield.—On October 20th, 1951, at St. Philip's Church, Girlington, Bradford, Anthony Champion Smith, youngest son of Mr. and Mrs. H. R. Smith, of Reading, to Barbara Schofield, M.R.C.V.S., younger daughter of Mr. and Mrs. H. Schofield, of Bradford.

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R.C.V.S. OBITUARY

Loy, Cecil William, 8, Corve Street, Ludlow, Shropshire. Graduated Liverpool, December 19th, 1919. Died November 6th, 1951; aged 70 years.

LONDON APPRECIATION SOCIETY VISITS THE R.C.V.S.

On Saturday afternoon, November 3rd, by kind permission of the President of the R.C.V.S.—Professor J. G. Wright—the London Appreciation Society visited the buildings of the Royal College of Veterinary Surgeons. This Society, which has been in existence for many years, enables its members to visit the buildings of public and private bodies of historical and other interest.

The visitors were shown round the buildings of the Royal College by the Registrar and also visited the Library, where the Librarian, Miss Raymer, told them something of the work of the Library.

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ROYAL COLLEGE OF VETERINARY SURGEONS

Pharmacology, Etc., Examination

List of Successful Candidates

(*November*, 1951)

London:

Anderson, D. C.
Biggs, P. M.
Bloomberg, J. H.
Box, P. G.
Carter, H. E.
Carter, J. B.
Clay, Daniel
Cox, J. A.
Evans, J. M. (Credit)
Fell, B. F.
Freudenthal, G.
Godfrey, M. J.
Hall, S. A.
Hawkins, Albert
Haxby, D. L.
Hayes, T. J.
Hullis, Roy
Hunter, F. E.
Jones, J. E.
Jordan, A. N.
Kevwood, E. K.
Kirby, M. A.
Lane, D. R.
Levens-Ing, Miss P. J.
Mackay, B. H.
Malone, J. C.
Martin, H. T. W.
Michael, J. R.
Morris, A. D.
Pepper, R. T.
Rabbich, P. D.
Reid, J. H. (Credit)
Richards, M. A.
Rodgers, M. J.
Russell, G. P.
Samuel, R. M.
Smith, G. R.
Smith, P. L. F.
Stear, R. T. (Credit)
Swann, A. I.
Tew, N. C.
Townsend, G. H.
Walker, Miss G. M.
Wilkins, G. T.

Liverpool:

Ditchburn, D. M. L.
Illingworth, H. M.
Kiernan, N. S.

(*To be continued.*)

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UNIVERSITY OF EDINBURGH ROYAL DICK SCHOOL OF VETERINARY STUDIES

Forthcoming Unveiling of War Memorial

The War Memorial to former students of the Royal (Dick) Veterinary College who gave their lives in the 1939-45 War will be unveiled on Tuesday, November 27th, 1951, at 3 p.m. The Memorial takes the form of an additional scroll of names added to the Memorial tablet in the 1914-18 War Memorial Library of the College. Sir Edward Appleton, G.B.E., K.C.B., F.R.S., Principal and Vice-Chancellor of the University of Edinburgh, has kindly consented to preside at this ceremony. All interested are invited to be present.

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ADDRESSES OF DISEASE-INFECTED PREMISES

List Showing the Outbreaks of Notifiable Diseases (Other than Tuberculosis) Confirmed on the Undermentioned Dates

Together With

Addresses of premises on which disease occurred and, in capital letters, the name of the Local Authority concerned.

Anthrax

November 3rd, 1951.—The Grange, Baddington, Nantwich, Cheshire (Cheshire).

November 5th, 1951.—Whitehall Farm, Grindleton, Clitheroe, Lancs (Yorkshire, West Riding); West Wick Farm, Bishop Monkton, Harrogate, Yorkshire (Yorkshire, West Riding); Auchenbainzie, Thornhill, Dumfries (Dumfriesshire).

November 6th, 1951.—Ladyyard Farm, Mauchline, Ayrshire (Ayrshire).

November 7th, 1951.—The Grange, Baddington, Nantwich, Cheshire (Cheshire); Northgate Farm, Market Weighton, York (Yorkshire, East Riding); Butcher Fold Farm, Hothersall, Ribchester, Preston, Lancs (Lancashire).

November 8th, 1951.—Holly Farm, Normanton-on-Trent, Newark, Notts (Carcase at: The Knackery, Low Marnham, Newark, Notts) (Nottinghamshire).

Fowl Pest

November 2nd, 1951.—Chapel Road, Hesketh Bank, Preston, Lancs (Lancashire); Bannister's Farm and Outland Farm, Liverpool New Road, Much Hoole, Preston, Lancs (Lancashire); Smith's Farm, Grange Lane, Hutton, Preston, Lancs (Lancashire).

November 3rd, 1951.—Withy Tree Farm, Inskip, Preston, Lancs (Lancashire); Douglas House, Liverpool Old Road, Much Hoole, Preston, Lancs (Lancashire); Elm Bank, Hall Lane, and Gill Farm, Hall Lane, Longton, Preston, Lancs (Lancashire); Elm Tree Farm, Moss Lane, Newstead, Station Road, and Baker's Farm, Brook Lane, Little Hoole, Preston, Lancs (Lancashire).

November 4th, 1951.—Moorfield, Six Acre Lane, Longton, Preston, Lancs (Lancashire); Moorhey Farm and Willow Grove, Liverpool New Road; Spring Bank, Liverpool Old Road, and Westbrook, Pine Avenue, Little Hoole, Preston, Lancs (Lancashire); Park Cottage, Marsh Lane, Longton, Preston, Lancs (Lancashire).

November 6th, 1951.—All at Preston, Lancs (Lancashire): Torrs Farm, Walmer Bridge; Walshaw House, Grange Lane, Hutton; Sherwood, Station Road, and Moss Hall Farm, Little Hoole; Box Cottage, Town Lane, Much Hoole; Liverpool Old Road, Hoole.

November 7th, 1951.—All at Preston, Lancs (Lancashire): Carrs Farm, Grange Lane, Hutton; "Whittlefields," Land Lane, Longton; Greycott, Lytham Road, Warton; Brookfield, Skip Lane, Hutton; Blow Farm, Town Lane, Hoole.

November 8th, 1951.—All at Preston, Lancs (Lancashire): 15, Leyland Road, Penwortham; 5, Matt Kiln Terrace, and Lynbrook, Dob Lane, Longton; Lane End Farm and Carver Hey Farm, Little Hoole; Middle Grange Farm, Grange Lane, Hutton.

(*Continued at foot of next column*)

Tuberculosis (Attested Herds) Scheme, 1950

Statement Showing Position in each County as at September 30th, 1951

County	Total Cattle as at 3.6.50	Number of Attested Herds as at 30.9.51	Number of Cattle in Attested Herds as at 30.9.51	Percentage of Attested Cattle to Total Cattle
Bedford	49,480	178	10,500	21·2
Berkshire	88,659	707	41,910	47·3
Buckingham	119,332	586	32,380	27·1
Cambridge	34,692	151	8,990	25·9
Isle of Ely	23,705	37	2,030	8·6
Chester	254,738	1,141	54,490	21·4
Cornwall	289,851	956	33,369	11·5
Isles of Scilly	481	89	*1,290	100·0
Cumberland	228,610	2,589	119,200	52·1
Derby	194,059	598	29,650	15·3
Devon	432,429	1,413	59,870	13·8
Dorset	156,148	1,098	64,540	41·3
Durham	119,242	943	33,060	27·7
Essex	130,089	787	42,620	32·8
Gloucester	203,974	1,040	58,020	28·4
Hampshire	154,061	1,228	64,820	42·1
Isle of Wight	21,346	224	9,480	44·4
Hereford	146,823	554	25,770	17·6
Hertford	63,378	395	23,610	37·3
Huntingdon	30,686	53	3,230	10·5
Kent	126,063	714	35,620	28·3
Lancaster	286,944	1,718	67,790	23·6
Leicester	176,494	388	21,900	12·4
Lincoln (Holland)	29,759	14	420	1·4
Lincoln (Kesteven)	73,926	149	7,050	9·5
Lincoln (Lindsey)	170,480	231	11,200	6·6
London	—	—	—	—
Middlesex	8,216	45	2,440	29·7
Norfolk	198,792	596	44,420	22·3
Northampton	160,712			
Soke of Peterborough	7,295	246	16,110	9·6
Northumberland	203,001	530	30,270	14·9
Nottingham	115,405	271	12,760	11·1
Oxford	112,623	753	42,180	37·5
Rutland	20,991	16	590	2·8
Salop	288,516	915	53,730	18·6
Somerset	337,676	1,855	96,220	28·5
Stafford	245,760	626	30,960	12·6
Suffolk, East	86,578	348	18,240	21·1
Suffolk, West	42,569	233	14,630	34·4
Surrey	54,583	581	25,110	46·0
Sussex, East	111,001	695	30,290	27·1
Sussex, West	78,202	573	30,820	39·4
Warwick	158,264	520	28,280	17·9
Westmorland	98,326	1,758	73,620	74·9
Wiltshire	205,118	880	65,170	31·8
Worcester	107,782	320	16,560	15·4
York, E. Riding	144,568	169	7,530	5·2
York, N. Riding	258,275	1,447	50,980	19·7
York, W. Riding	352,538	2,103	75,410	21·3
England	7,003,140	33,461	1,629,120	23·3
Anglesey	57,303	490	12,350	21·6
Brecon	50,765	407	13,340	26·3
Caernarvon	63,252	1,064	22,570	35·7
Cardigan	78,939	4,145	69,350	87·9
Carmarthen	142,099	5,646	117,080	82·4
Denbigh	106,274	1,020	30,220	28·4
Flint	64,616	306	11,950	18·5
Glamorgan	80,242	568	14,660	18·3
Merioneth	42,870	1,429	28,470	66·4
Monmouth	75,973	363	14,470	19·0
Montgomery	102,886	1,309	38,700	37·6
Pembroke	105,391	2,387	57,380	54·4
Radnor	40,608	155	5,370	13·2
Wales	1,011,218	19,289	435,910	43·1
England & Wales	8,014,367	52,750	2,065,030	25·8
Aberdeen	235,580	336	28,700	12·1
Angus	69,700	176	16,840	24·2
Argyll	63,503	1,038	32,700	51·5
Ayr	153,805	2,281	142,000	92·3
Banff	57,370	79	5,800	10·1
Berwick	35,169	105	6,800	19·3
Bute:				
Non-Attested Area	5,200	89	4,810	92·5
Attested Area	5,535	237	5,530	100·0
Caithness	27,446	176	5,020	18·3
Clackmannan	4,733	36	2,680	56·6
Dumfries	105,272	1,700	90,020	85·5
Dunbarton	17,256	278	14,230	82·5
East Lothian	16,254	68	5,730	35·3
Fife	65,635	461	29,510	45·0
Inverness	52,447	130	7,380	14·0
Kincardine	40,925	81	6,590	16·1
Kinross	9,815	55	4,200	42·8
Kirkcudbright	75,899	1,008	65,880	86·8
Lanark	94,268	1,516	79,760	84·6
Midlothian	24,736	273	13,920	56·3
Moray	30,516	76	5,790	19·0
Nairn	8,804	34	2,250	25·6
Orkney	48,594	337	8,470	17·4
Peebles	11,632	227	8,400	72·1
Perth	95,638	378	23,600	24·7
Renfrew	30,217	512	25,470	84·3
Ross-shire	40,213	341	6,820	17·0
Roxburgh	35,541	116	7,040	19·8
Selkirk	6,060	82	2,380	39·3
Stirling	41,621	489	24,650	59·2
Sutherland	10,184	368	2,690	26·4
West Lothian	15,317	193	9,350	61·0
Wigtown	74,297	773	62,200	83·7
*Zetland	7,208	1,832	*7,210	100·0
Scotland	1,616,390	15,881	764,420	47·3
Great Britain	9,630,757	68,631	2,829,450	29·4

* All cattle herds in Zetland and the Isles of Scilly are attested. This figure represents the number of animals at the last test of the herds.

Swine Fever

November 2nd, 1951.—Hoaden Court Farm, Ash, Canterbury, Kent (Kent); The Bungalow, Euxmoor Drove, Christchurch, Wisbech, Cambs (Isle of Ely); Smith's Potato Estates, Ltd., Nocton, Lincoln (Carcase at: Ministry of Food Abattoir, Lincoln) (Lincoln Parts of Kesteven); Cockcroft's Yard, Springhols Lane, Thornton, Bradford, Yorkshire (Carcase at: St. James's Abattoir, Bradford, Yorkshire) (Bradford).

November 3rd, 1951.—Duffield Lane Piggeries, Stoke Poges, Slough, Buckinghamshire (Buckinghamshire); Twenty North Drove, Bourne, Lincs (Lincoln Parts of Kesteven); R.A.F. Station, Honington, Bury St. Edmunds, Suffolk (Suffolk, West).

November 5th, 1951.—Ivy Farm, Baldock Road, Bassingbourn, Royston, Herts (Cambridgeshire); Pilham Lane, Blyton, Gainsborough, Lincs (Lincoln Parts of Lindsey); 209, Roman Bank, Skegness, Lincs (Lincoln Parts of Lindsey); Weybourne Road Allotments, Sheringham, Norfolk (Carcase at: Ministry of Food Slaughterhouse, Cawston, Norwich, Norfolk) (Norfolk); Canal Farm, Hickling, Melton Mowbray, Leicestershire (Nottinghamshire); High Lees Farm, Barnford, Sheffield (Carcase at: Co-operative Slaughterhouse, Sheffield) (Derbyshire).

November 6th, 1951.—Buildings and Orchard opposite Red Lion Hotel, High Street, Lidlington, Bedford (Bedfordshire); Harper's Drove, Ramsey Heights, Huntingdon (Huntingdonshire); Grove Farm, Brundish, Woodbridge, Suffolk (Suffolk, East); Roslyn House, Coddenham, Ipswich, Suffolk (Suffolk, East); The Laurels,

Valley Lane, Bitteswell, Rugby (Leicestershire); Council Houses, Station Road, Rippingale, Bourne, Lincs (Lincoln Parts of Kesteven).

November 7th, 1951.—189, High Street, Cottenham, Cambridge (Cambridgeshire); The Vicarage, Isleham, Ely, Cambs (Cambridgeshire); Smallholdings, Sherdley Road, St. Helens, Lancs (St. Helens Borough); Church Farm, Kettle Baston, near Hadleigh, Suffolk (Suffolk, West); Warren Farm, Millbrook, near Ampthill, Bedford (Carcase at: Thompson's Slaughterhouse, Silver Street, Bedford) (Bedfordshire); Hill Farm, Heath Road, Warboys, Huntingdon (Huntingdonshire).

November 8th, 1951.—Star Lane, Ramsey, Huntingdon (Huntingdonshire); Main Street, Great Gidding, Huntingdon (Huntingdonshire); Hall Farm, Bury, Huntingdon (Huntingdonshire), "Hazeldene," Puddock Road, Warboys, Huntingdon (Huntingdonshire); 9, Horsegate, Whittlesey, Peterborough, Northants (Isle of Ely); Durlock Farm, Ash, Canterbury, Kent (Kent); The Grange, Thurlby, Bourne, Lincs (Lincoln Parts of Kesteven); 23, Cavendish Street, Peterborough, Northants (City of Peterborough); Oldfield Farm, Ombersley, Droitwich, Worcestershire (Worcestershire).

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INTERNATIONAL VETERINARY CONGRESS IN SPAIN

The second International Congress of Veterinary Zootechnics has just been held in Spain. Reports on the papers read and on the conclusions reached are not yet available, but it is significant that no fewer than 1,500 veterinary surgeons, representing the whole free Western world, attended the Congress, which was held at the University City, Madrid. Among them were a large number of veterinarians from Spanish America. This Congress, therefore, falls into line with the interesting rapprochement which has taken place during the last six months between Spain and Spanish America.

The Spanish Minister of Agriculture presided at the Congress and the Vice-President was the Under-Secretary of State for Agriculture of the Argentine Republic. The Congress was attended on behalf of the National Veterinary Medical Association of Great Britain and Ireland by Dr. N. S. Barron, who conveyed the good wishes of the Association. As Dr. Barron informed the Council at its recent meeting, this gesture was much appreciated.

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LIVESTOCK EXPORT GROUP

Address by Sir Thomas Dalling

In its report for the quarter ended September 30th, 1951, the Livestock Export Group states that at their meeting in early October members of the Group's General Committee were addressed by the Chief Veterinary Officer of the Ministry of Agriculture and Fisheries' Animal Health Division, Sir Thomas Dalling, D.Sc., M.A., F.R.C.V.S., F.R.S.E.

Sir Thomas said that since the Canadian authorities had introduced their ban in August on further importation of stock from Great Britain he had visited Canada and had held discussions with the Canadian Director of Veterinary Services and other officials. The position was now that, so far as cattle and other animals were concerned, they were imported into Canada either for Canada or for the U.S.A. Before the U.S.A. would accept our cattle they had to receive Canadian "status"—they were then no longer British cattle, having become Canadian cattle. To implement the latter, animals had to reside in Canada for 60 days.

Both Canada and the U.S.A. were free from certain infectious diseases, the more important being foot-and-mouth, which affected both, and in view of the U.S.A. having recently experienced the close proximity of foot-and-mouth near its southern borders, they were both desirous of taking every precaution to keep out the disease from their countries, particularly Canada, where the disease had not been present for very many years.

A large livestock export trade existed from Canada to the U.S.A. which Canada prized very highly, and animals passing through Canada from this country were only a fraction of that trade, which they would not prejudice in any way. Canada was therefore being particular about our animals because of the possible effect they might have on that trade.

The C.V.O. went on to say that he had seen the Quarantine Station at Quebec, which, in his view, was excellent and was being modernised. The station differed slightly from ours in that buildings were in the middle of pastureland so that stock could be taken out to grass and still be isolated. A recent consignment of stock from Great Britain was in the station at the time and he paid high tribute to their quality and said they looked very well. The animals were well looked after whilst in quarantine there. The station could hold 156 head of cattle and it was possible to isolate one consignment from another. Sheep and pigs could also be accommodated in large numbers. It was unfortunate that the station at Quebec could only be used during certain times of the year—the St. Lawrence being frozen during the winter months. The other station was at St. John, but he did not see it. The third station, at Halifax, was not being reopened.

The St. John Station could accommodate 80 cattle and such pigs and sheep as were imported from here. Improvements were being carried out at that station.

Foot-and-Mouth Disease

Sir Thomas went on to say that, as far as animals from this country were concerned, it was emphasised to him very clearly that this was the only country in the world from which Canada accepted stock, despite periodic outbreaks of foot-and-mouth disease here. There was no other country from which Canada accepted animals under such conditions. Scotland was the country from which animals were shipped to Canada and they had either to pass through quarantine or were shipped direct from Scotland under certain conditions. Canada accepted direct shipments from Scotland as they maintain that Scotland is free from foot-and-mouth disease as apart from England. The incidence of foot-and-mouth disease in Scotland had been low at all times as compared with England.

The last outbreak of foot-and-mouth disease in Scotland gave Canada cause for alarm and they cancelled further permits for the importation of stock from Great Britain. This was taken as a precautionary measure to see what happened in Scotland with the passage of time. As the result of his visits after the pronouncement of the ban, Canada had agreed that shipments of stock through quarantine could be resumed from Scotland and England three months after the date when Scotland was last declared free from foot-and-mouth disease, and provided there were no further outbreaks meantime, and they had also agreed that this could include the quarantine period. The Canadian authorities stated they would consider, after six months, the direct shipment of stock from Scotland as before. Because of the conditions in Canada and the views they held with the U.S.A., one could appreciate their outlook. If anything happened that, for instance, foot-and-mouth was introduced into Canada, it would temporarily end our trade with Canada and the U.S.A. He said it was the Canadian authorities who introduced these regulations, not the Ministry, and they had to carry them out as far as possible.

Mange

Continuing, Sir Thomas said that foot-and-mouth disease was not the only trouble that gave them cause for a certain amount of anxiety. For some years now he had heard of the exportation to Canada of mangy cattle. It was a notifiable disease in Canada, in the same way as anthrax and certain other diseases were here. If any animal, therefore, was found to have mange on arrival in Canada, the Canadian authorities had a right to slaughter or return it. Such animals were treated in quarantine by the Canadian authorities and complaints were received by the Ministry in respect of them. It was not a nice thing to receive complaints and Sir Thomas said it would not surprise him if, one day, the Canadian veterinary authorities did lay down something very strict in that regard. He said that the Ministry had taken whatever action they thought they could, but if much more of it went on he could see some order being made whereby animals affected with mange would not be accepted into Canada.

Animals going through the Ministry's quarantine station were free from mange as they dressed animals twice whilst there; they wanted the animal to go free from all diseases and an animal was treated as a potential case of mange. The Ministry wished animals to look well and to earn credit for the quarantine station. There was, however, not much use doing that if other animals shipped direct were infected with mange and mixing with quarantined animals on the boat, as there was no reason why those animals could not infect those which were dressed. He would not be surprised if Canada ordered that all our stock should be quarantined or that they be dressed for mange before leaving. He, too, favoured the idea, as he was responsible in some measure for the health of animals. It was, however, a matter which would receive further consideration by Canada. There was nothing at the moment that suggested quarantine would be insisted upon for all animals and that direct shipments would not be permitted until after a certain number of months.

Glasgow Quarantine Station and Greenock Lairage

Proceeding, Sir Thomas said that he and the Deputy C.V.O., Mr. E. C. Lloyd, had recently visited the station at Glasgow, where extensive alterations had been made. The station could hold about 70 cattle, which figure would be smaller if sheep and pigs were also accommodated at the same time, and they were therefore considering finding other accommodation in Glasgow for quaran-

tining sheep and pigs so that they could nearly fill the St. John Quarantine Station, which could take 80 cattle and a large number of sheep and pigs. They felt that, to help exporters, if a place in Glasgow acceptable to the Canadian D.V.S. could be found, it would then leave the whole of the Glasgow station for cattle and so help to alleviate the position there.

They had also seen the lairage at Greenock, which had many points in its favour in regard to quarantine, but he did not think it would be acceptable to the D.V.S. as the conditions laid down by him would not be met by Greenock in its present state. He had discussed this matter with the D.V.S., who had had details of Greenock given to him by the Canadian authorities here who had inspected it some little time ago.

In conclusion, Sir Thomas said that maybe they should think further regarding quarantine accommodation for stock exported to Canada. They had already considered the matter and felt that if the present station could be extended it would meet the case. They had to consider the number of animals that could be accommodated in Canada—80 at St. John and 160 at Quebec—the time between shipments and the number of stock that could be taken on board ship. The Ministry felt that if the station was extended, which could be done if the Treasury sanctioned it, they would have a very good station. He did not know how the Treasury would view that, nor did he then have any information. In anticipation that more quarantine space would be required, the Ministry were now making enquiries to have the station extended and the length of time it would take to complete the project.

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U.S.A. FULBRIGHT TRAVEL GRANTS, 1952-53

The United States Educational Commission in the United Kingdom announces that, under the provisions of the Fulbright programme, travel grants are available to citizens of the United Kingdom and Colonies to go to America for an academic or educational purpose, such as study, research, lecturing or the pursuance of other educational activities. They are available for travel to America between June 1st, 1952, and May 31st, 1953, and will cover the cost of return rail and steamship fares between the candidate's home in the United Kingdom or Colonies and the destination in America. The awards are competitive and full particulars regarding application are obtainable from the Commission at 55, Upper Brook Street, London, W.1.

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PREVENTION OF CRUELTY TO ANIMALS IN SCOTLAND

"More than the usual interest," says *The Scottish Farmer*, "is attached to an announcement that a Central Council of the four societies for prevention of cruelty to animals in Scotland has been formed. The announcement is to the effect that after somewhat prolonged negotiations a minute of agreement has been duly signed and recorded among the four societies—S.S.P.C.A. (Edinburgh, founded 1839), which patrols 25 Scottish counties; the Glasgow and West of Scotland S.P.C.A. (founded 1856), patrolling seven counties; the Aberdeen A.P.C.A. (founded 1870), and the Dundee S.P.C.A. (founded 1864), providing for a Central Council of two representatives from each society. It will have 'powers to decide in regard to legacies where dispute might otherwise arise, and to discuss and co-ordinate united action in regard to animal protection generally in Scotland.' The Secretary to the Council is Mr. Lyndesay G. Langwill, C.A., the Secretary of the Scottish S.P.C.A."

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PIGS NEARING A RECORD

The September census shows that pigs, which total 3,560,000, are increasing at a very rapid rate. There has been an increase of 1,031,000 (41 per cent.) over 1950. There is every indication of a further expansion, since the total number of breeding sows and gilts was 470,000, and this is 21,000 more than in June, 1939.

"The deduction to be drawn," says *The Farmer and Stockbreeder*, "is that the total number will soon approach the 4,000,000 mark, and this will be the highest number ever reached in this country. These figures show how quickly pigs can be produced, and it is to be hoped that the Ministries of Agriculture and Food will take full note of this increase and make provision for adequate feeding-stuffs."

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Ladies' Kennel Association Show at Olympia.—We regret that in the account of this event published last week, no mention was made of the fact that the Bedlington Terrier "Barwal Blueprint" won a first and a third, as the exhibitor was Mr. H. Scott Dunn, M.R.C.V.S., of Hove, who commenced owning Bedlingtons 56 years ago and has always been interested in the breed.

DR. FRED BULLOCK'S MEMORIAL PORTRAIT-IN-OILS

In our issue of October 27th we recorded the unveiling at the Royal College of Veterinary Surgeons, by the President, Professor J. G. Wright, of the memorial portrait-in-oils, by Mr. Arnold Mason, R.A., of Dr. Fred Bullock, Barrister-at-Law, Secretary and Registrar, 1907-1946. We learn that the portrait is to be on view at the Exhibition of the Royal Society of Portrait Painters, Royal Institute Galleries, 195, Piccadilly, W.1. Following a private view on November 22nd, the exhibition will remain open from 10 a.m. to 5 p.m. until December 29th.

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WESLEY ON HORSEBACK

In the following days, I went on slowly through Staffordshire and Cheshire, to Manchester. In this journey, as well as in many others, I observed a mistake that almost universally prevails: and I desire all travellers to take good notice of it, which may save them both from trouble and danger. Near 30 years ago I was thinking, "How is it, that no horse ever stumbles while I am reading?" (History, poetry and philosophy I commonly read on horseback, having other employment at other times.) No account can possibly be given but this, because then I throw the reins on his neck. I then set myself to observe; and I aver, that in riding above 100,000 miles I scarce ever remember any horse, except two (that would fall head over heels anyway), to fall, or make a considerable stumble, while I rode with a slack rein. To fancy, therefore, that a tight rein prevents stumbling is a capital blunder. I have repeated the trial more frequently than most men in the kingdom can do. A slack rein will prevent stumbling, if anything will; but in some horses nothing can.—*The Journal of the Rev. John Wesley, A.M.* XV. From May 14th, 1768, to September 1st, 1770.

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All horses taking part in a jumping contest at Kollum (Holland) were eliminated. Then veterinary surgeon Jan Reinders won a bet that he could jump over all obstacles without a mount within the given time.—*Sunday Pictorial.*

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the N.V.M.A.

BOWEL OEDEMA, GUT OEDEMA OR OEDEMA DISEASE

Sir,—It may be of interest to know that Messrs. Gordon, Gracey and Luke, of the Veterinary Research, Stormont, Belfast, have transmitted a condition apparently identical with field cases of "bowel oedema" using the technique described by Timoney in his paper to the Cardiff Congress (*Vet. Rec.* **62**, 737: December 9th, 1950).

Full details will be published in due course.—Yours faithfully, H. G. Lamont, Ministry of Agriculture for Northern Ireland, Veterinary Research Division, The Farm, Stormont, Belfast. *November 8th*, 1951.

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CURARIZING DRUGS

Sir,—I also was somewhat concerned by the suggestion in Mrs. Sheppard's paper in *The Veterinary Record* of November 3rd that Myanesin should be used as an adjunct to barbiturate anaesthesia. I should like to endorse heartily Dr. Cowie's warnings (*Vet. Rec.*, November 10th) and to make some further points which I think are of practical interest.

Electro-encephalographs show that Myanesin does have some action on the brain, as well as on the myoneural junction, but I doubt if the anaesthetic effect is significant. The *rate* of injection of Myanesin has a marked influence on its action, and this would complicate the procedure when the drug is combined with barbiturate in one syringe. Myanesin relaxes the respiratory as well as the abdominal muscles, and the surgeon must always be prepared to give artificial respiration when using it.

The most dangerous side-effect of this drug seems to me to be on the heart; the heart rate may be reduced by 20 to 25 per cent. with a corresponding lowering of blood pressure within two to three minutes of the injection. This effect is not constant and there may even be an initial tachycardia before the bradycardia.

Muscular relaxants undoubtedly have their uses, but I do feel they should be used with great caution, and preferably after a demonstration by an operator who is familiar with their actions.—Yours faithfully, Phyllis G. Croft, Rhiwbina Farm, Whitchurch, Cardiff. *November 10th*, 1951.